REMARKS

Information Disclosure

Applicant submitted a first Information Disclosure Statement and Form PTO-1449 together with the application. A Supplemental Information Disclosure Statement was submitted with another Form PTO-1449 (two pages) on November 27, 2002 (see File History, entry #11, 12/02/2002); and finally, a Second Supplemental Information Disclosure Statement was filed with yet a third Form PTO-1449 (one sheet) (See File History entry #13, 01/31/2003). Attached to the Office Action mailed 08/24/2004 are copies (indicating consideration by the examiner) of the first and third Forms PTO-1449 submitted by applicant, but not the second. (The Office Action Summary indicates attachment of IDS paper #4 and paper #6.) Applicant would appreciate receiving a copy of the missing form (indicating consideration by the examiner) with the next Office Action.

Prior Art Rejections

The Examiner rejected claims 20-35 as unpatentable under 35 U.S.C. Section 103(a) (obviousness) over U.S. Patent No. 5,850,599 (Seiderman). Applicant respectfully traverses these rejections for the following reasons and hereby requests reconsideration.

The Seiderman patent is directed to a portable cellular telephone with a credit card debit system. Seiderman's portable cell phone can be used, for example, in a rental car to enable the driver to make phone calls and charge them to his credit card. The system includes a credit card reader coupled to a cell phone. Further, according to the Abstract, "the cellular telephone also includes electronic circuitry which establishes a first telephone communications link with the network and transmits, via the transceiver unit for the phone, to the network, credit card data, a cellular telephone ID data, and the telephone number input into the handset by the user [the destination number]." In the system described, the cell phone initially (and automatically) places a call to "a particular IXC within the telecommunications network where the credit card data is further validated through a validation or verification computer system 47." Column 7, lines 29-32. An IXC is a company that validates credit cards and bills charges to them. Column 3, line 13.

It is important to understand the nature of the "telecommunications network" described in the Seiderman patent. Referring to Figure 1, the "telecommunications network" 36 includes the cellular (wireless) carrier network 46, switch 48, call record system 49, and the local telco (PSTN) 50. To begin operation, the processor coupled to the cell phone employs a predetermined "placement phone number" to place a call via the wireless network 46 to the IXC, or switch 48. The wireless network itself interacts with the cell phone processor and the switch in an integrated fashion. "According to the present invention, local cellular carrier 46 is electronically coupled and is part of the telecommunications network 36 that includes switch 48, telephone company lines 50, and call record system 49." Column 7, lines 3-6.

More specifically, a communications protocol is established between the cellular telephone and the cellular network. Refer to the call protocol table at column 14, line 60 through column 15, line 8. "The cellular telephone calls the telecommunications network using the determined call placement telephone number. The network provides a handshake . . . ." Column 15, lines 9-12. "In step 3 of the protocol, the cellular telephone sends the cellular telephone ID to the cellular network. This ID at least includes the TID and may further include the MID. The network then provides a handshake. . . ." Column 15, lines 12-20. Seiderman thus teaches a system that leverages integrated telecommunications networks in that a communications protocol is established for interaction between the cell phone and the network (rather than a destination telephone or other call-taker unit) to accomplish call setup, credit card verification, billing, etc. As indicated at column 6, line 30, and at column 18, with reference to Figure 4, DTMF signaling is used between the cell phone and the network for transmission of data such as the destination phone number or cell phone ID. That data communication, however, involves interaction with the telecom network.

The foregoing system, while involving a wireless mobile unit and credit card processing, thus stands in stark contrast to the present invention which requires no interaction with the telecommunications network itself. In other words, in accordance with applicant's invention, the telecom network is used merely as a passive conduit and it is not involved in the credit card approval process at all (other than the mere fact of establishing a conventional voice channel call). In prior art systems such as the Seiderman patent, special arrangements must be made with the carrier in advance, and provisions must be made both in the carrier network and in the cell phone to implement a predetermined protocol for the kinds of interactions described by

Seiderman. Of course, separate arrangements must be made with each wireless carrier or service provider as necessary to carry out the credit card approval process using their network.

According to the applicant's present invention, credit card verification can be done simply and easily using any wireless carrier, because the data transmission proceeds in the voice channel, not in the overhead control channel, and is entirely transparent to the wireless carrier. In accordance with the present invention, no special protocol need be established with the wireless carrier.

A preferred embodiment of the present invention employs audio tones for data communication, but it is distinguished from the system described by Seiderman in that the present invention calls for "*receiving via a voice channel of a digital wireless telecommunications network* a set of audio tones representing a merchant financial verification request," etc (claim 1). Seiderman and the like teach a system that requires special protocols implemented in the telecom network *employing the overhead or control channel*, not the voice channel.

Thus the present invention provides for *modifying the DTMF data* into a form such that it will pass through the traffic channel (voice channel) without corruption. This is necessary because the vocoders (voice-coders) are designed to encode voice, not data, and, in fact, they very effectively filter out non-voice energy as noise. Audio tone encoding (e.g. DTMF) is conventionally used in a modem scenario where voice is not present. It operates over a data channel. Similarly, Seiderman's system leverages the wireless control channel – a data channel –as described above. Applicant's invention does not involve the overhead control channel, and therefore can be used with GSM or any other digital wireless network without involving the network and, in particular, without complying with network-specific overhead control channel protocols. This is reflected in the language of claim 20 that calls for, "receiving via a voice channel of a digital wireless telecommunications network a set of audio tones representing a merchant financial verification request...." The dependent claims also speak to data transmission *over the voice channel.* Claim 23 is amended to emphasize these characteristics by including the limitations of claim 27, now canceled.

Control via the Voice Channel

Claim 22 describes another important aspect of the invention, namely a method of control signaling via an ordinary voice channel. Conventionally, control signaling occurs over a separate control channel. The present invention thus enables control signaling over any network without actually implementing the control protocols into the network infrastructure. The claim thus calls for "defining one or more control codes reserved for communication control signaling over the voice channel, each control code comprising one or more alpha-numeric characters; establishing a digital voice channel connection between the RCA and the call receiver apparatus (CRA)," etc. These steps are radically different from the prior art where communication control signaling occurs exclusively on the overhead/control channel rather than the traffic or voice channel.

Claim 22 further calls for converting the selected control code into an audio tone representation, formatting the audio tones in a vocoder so as to form digital transmission data, in transmitting the digital transmission data over the digital voice channel connection, and finally, "detecting the control code to effect control signaling transparently over the voice channel." The prior art discussed above does not disclose or suggest using the voice channel for control signaling. The control signaling contemplated by the present invention pertains to control codes to be used by the receiving apparatus rather than the wireless network.

For the foregoing reasons, pending claims 20-35 should be allowed.

Respectfully submitted,

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